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*"To the solid ground
Of Nature trusts the mind which builds for aye."*—WORDSWORTH

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COUES'S "BIRDS OF THE COLORADO"

Birds of the Colorado Valley. By Elliott Coues. Part I. *Passeres to Laniidae.* Bibliographical Appendix. United States Geological Survey of the Territories. Miscellaneous Publications—No. 11. 8vo, pp. 807. (Washington, 1878.)

WHAT is commonly called a "popular" zoological work is nearly always one that is bad. The knowledge possessed by the writers of such books is seldom greater than that of the public for whose benefit the books are ostensibly published, and is far behind that of a moderately well-informed student of the particular branch concerned. We shall name no names, but our readers will doubtless be able to supply several instances in support of this assertion without inconveniently taxing their memories. Within a very short space of time they have seen the works of two English naturalists, whose writings have long attained a classical position, subjected to such treatment at the hands of "popular" editors as would "make the angels weep," if those celestial beings be actuated by human affections, while the number of books independently put forth by "popular" sciolists is past counting. These books have their day—and sometimes it unfortunately is a long day. Granting that they do some good by administering to or fostering the taste for natural history already so widely spread, the evil they perpetrate is far greater. This evil lies first in their instilling for the most part erroneous ideas into the innocent pupil, and secondly in their occupying and encumbering the ground to the exclusion of better books, which drop still-born from the press. The struggle for existence is admittedly slow in operation, and though we doubt not which way the triumph will eventually be, the end is far off, and ere it arrive dire mischief is done. The falsest notions are promulgated, the feeblest arguments are maintained, and the learner at last discovers to his sorrow that, instead of proceeding joyously on his course, he has to unlearn what he has acquired. Something may be said in favour of the mental discipline thus

undergone, but on the other hand must be weighed the waste of time that attends the process, and the spirit of the age is against any discipline that is in the least doubtful of effect. As an epithet to a work on zoology, "popular" in nine cases out of ten really means debasing.

It is therefore with great pleasure that we can declare the volume before us—"The Birds of the Colorado Valley"—to be a popular book, not in the common sense but in the uncommon, highest and best meaning of the phrase. Dr. Coues has long since attained a scientific reputation that cannot be gainsaid. His numerous works are as well known and as highly esteemed on our side of the Atlantic as on his own, and one quality which is conspicuous in all of them is their thoroughness. When Dr. Coues writes a sentence he is in earnest, and there is no mistaking what he says. Whether the subject be the laboured description of an animal whose fur or plumage is mottled and diversified by the most delicate combination of tints—many a rodent, an owl, or goatsucker for example; the unravelling of an abstruse question of complicated synonymy; an account of the economy of a beast or bird to be given from his own wide experience or compiled from the observation of others—this quality is manifest. He has of course his faults. Some of them he has not been slow to acknowledge, but there is seldom a fault in his works that can be fairly called a blunder, and even such blunders were they twice as great and twice as numerous we could readily pardon, for there runs through all his writings, showing itself at times even in the driest spots, a humorous vein that can scarcely fail to excite a sympathetic flow even from the sternest of scientific breasts. In this volume Dr. Coues gives freer play to his lighter mood than, we think, in any of his former works, and at times (though he can be as serious when he pleases as the strictest man of science would wish) there is a boyish elasticity in his style which is exceedingly pleasant. He is always a readable author, whereby we mean that apart from the value of the information we derive from his statements, he clothes them in agreeable language, which far too many of his zoological brethren neglect to do. Nor is there any attempt at fine writing, which of course is a great mistake—the mistake in fact

into which "popular" naturalists fall. Here is a passage which we extract, since it relates to a species now considered to be common to Europe and North America—the Tree-Creeper (*Certhia familiaris*)—and its accuracy will be recognised by all who have watched the bird in this country:—

"The leading trait of the Brown Creeper is its extraordinary industry—the 'incomparable assiduity,' as it has been well styled, with which it works for a living. Like all good workers, the creeper makes no fuss about it, but just sticks to it. So quietly, yet with such celerity, does it go about its business that it scarcely seems to be at work, but rather to be rambling in an aimless way about the trunks of trees, or at most only caring to see how fast it can scramble up to the top. During all this time, however, the bird is on the alert in the search for insects, which it extracts from their lurking-places with such dexterity that its progress is scarcely arrested for a moment; and the number of these minute creatures yearly destroyed is simply incalculable. The creeper is strongly attached to the trunks of large trees, being seldom seen foraging on even the larger branches; and it has a great fancy for travelling upward. These two traits combined result in its marked habit of beginning its curious search for insects near the bottom of a tree, and ascending with jerks in a straight or spiral line to the top. Then, if it likes the tree, and thinks it a good place to stay a while longer in, the bird launches itself into the air, and drops down on wing, to begin another ascent, in preference to scrambling down again, as a woodpecker or nuthatch would do. The easy, gliding motion with which it climbs has deceived one writer into stating that the creeper does not hop along like a woodpecker; but, in fact, the movement is exactly the same in both cases. One of the English writers (Barrington, Zool. 2nd ser. p. 3998) describes, however, something peculiar in the position of the feet during the act of climbing:—These, he says, are not held parallel with each other, and near together, under the belly, but widely straddled, and thrown so far forward as to form with the end of the tail a surprisingly broad-based isosceles triangle. So nimble is the bird, and such a sly way has it of eluding observation by turning in the opposite direction to that in which a person moves to look after it, thus continually interposing the trunk of the tree in the line of vision, that it is no wonder the way it holds its feet long remained unascertained. Many things conspire to screen the queer little bird from any but the most patient and closest scrutiny during its ordinary vocations; and so nearly do its colours correspond with the tints of the bark that it is likely to be overlooked altogether. But its habits are so methodical and undeviating that when one has learned them there is no difficulty. If we see a creeper alight at the base of a tree on the side away from us, we have only to stand still, and keep a sharp look-out for it higher up; in a few moments, its spiral twisting will bring it round to our side; the chief point is to look high enough up, for it is surprising how rapidly the bird ascends. It generally makes the whole journey before dropping on wing to the base of the tree again, or making off to another; sometimes, however, the tree seems to be not to its liking, when, as if actuated by a sudden impulse, it abandons an unprofitable search, and flies to a more promising feeding ground."

This is a very fair sample of the author's style in treating of birds' habits, but many extracts would be needed to show the enormous pains he has taken with the more scientific part of the book. The array of references prefixed to the account of each species is almost appalling, but when we come to look into them we find these citations are not printed merely for the sake of giving an

exhaustive list, but that there is a sufficient purpose for the insertion of almost each of them. In like manner we can praise the care bestowed on the technical characters of the several species, so far as we have been able to test them, for in diagnosis, that touchstone of a descriptive biologist, Dr. Coues especially shines, as indeed one expect might from the author of the "Key to North American Birds."

There is, however, one thing in this volume that we must say has excited our wonder, and must, we suspect, have deeply disturbed the minds of more than one naturalist who has read it. Dr. Coues, fully conscious of the risk he is running, cannot bring himself to reject the notion of Swallows and other birds plunging into the water in autumn and passing the winter in deep slumber! He admits that "it is as much as a virtuous ornithologist's name is worth to whisper hibernation, torpidity, and mud!"; but he adds further on, "It is not permitted to us, in the present aspect of the case, to rule out the evidence" in favour of what, for our own part, we must unhesitatingly call an exploded fable. It is certainly as much as a virtuous reviewer can do to treat this matter calmly. Yet we hold ourselves a better judge of evidence than Dr. Coues, and in spite of this singular aberration we draw our conclusion from the rest of his work that his reputation for sanity need not be thereby impugned. But he certainly overstates his case when he says that "the testimony, so far from ceasing with the irresponsible infancy of science, is reiterated to-day with the full voice of science, in terms that have not been successfully refuted." Now what is a successful refutation to one man, we all know, is not necessarily so to another. Are there not virtuous gentlemen who still insist on having proved the flatness of the earth, the squaring of the circle, and various geometrical impossibilities, and does not their very existence show that their testimony has not been "successfully refuted"? Nothing short of a miracle will convince some people, and we say this in view of both believers and unbelievers in the torpidity of birds. From whom is "the full voice of science" to be heard if not from scientific men, and where is the scientific man of to-day (Dr. Coues himself excepted) whose testimony reiterates that of Achard, Dexter, Pollock, Kalm, Forster, and the rest of those named in our author's excellent bibliography of the subject? We may have persons of intelligence and veracity, of respectability and honour, but we find not of late years one scientific man who can vouch for any statement of the kind on his own authority. It would be idle, however, to pursue the subject further; we should like to know, nevertheless, whether Dr. Coues refuses to reject the testimony as to the existence of Were-wolves, which seems to be on a par with, or even stronger than that in regard to, the torpidity of birds, and we shall only add that we think he is indeed "greatly mistaken" in his view that the Chimney-Swift (*Chatura pelagica*) "is not recorded as occurring anywhere beyond the United States in winter." If he will refer to a certain "Nomenclator Avium Neotropicalium," published not long since, he will find this species entered as occurring in Mexico, and we think we "could give reasons for the supposition" that it winters regularly in that country and others lying further to the south, instead of "hibernating in hollow trees" in the United States, so that what-

ever our author builds upon his basis would seem to have an unstable foundation.

We have just mentioned the excellent bibliography of the swallow-question given by Dr. Coues, but this is by no means the only one contained in his work. By way of appendix we have a "List of Faunal Publications relating to North American Ornithology," with a most useful double index (of authors and localities) thereto, the whole extending over more than 200 pages. The like of this we know not elsewhere, and we cannot sufficiently thank him for it. It makes us forget and forgive the single *escapade* which we so much regret having had to notice. One remarkable merit it possesses is that except in specified cases—and these, it is easy to see, are very few in number—no title has been taken at second-hand. More than this, we are told that the present batch of titles is but an instalment of a Universal Bibliography of Ornithology which the author has in hand, and towards which he has already collected about 18,000 titles! We are sure our readers will agree with us in hoping that Dr. Coues will be able to complete his laborious task, as well as in considering that its completion will redound to the already great credit of the department over which Dr. Hayden presides, and also to the medical staff of the United States army, which numbers Dr. Coues among its members.

BRITISH BURMA

British Burma and its People. By Capt. C. J. F. S. Forbes, F.R.G.S., M.R.A.S., &c. (London: John Murray, 1878.)

THIS book is offered as the result of thirteen years' experience derived from close intercourse, both officially and privately, with the people of Burma during that period. Such works are frequently contributed by the pro-consuls of the British empire, and afford, apart from their scientific value, good material to judge of the men and methods of our colonial government. Their merits are naturally unequal. The volumes of Raffles and Tennent, become classical, supply the corner-stones of future compilations, and are the exciting causes of a more ephemeral literature. It is, however, seldom that we see combined with the administrative capacities of our governors and commissioners a thorough knowledge of the ethnology, biology, and physical characteristics of the regions over which they preside. When such a man appears, and further possesses the quality of observation, his work marks an epoch, and English rule receives a new significance. It is in no adverse spirit that we say thus early that Capt. Forbes' work will not rank in this category, and we desire rather to commend it for what it does possess than to criticise it for the information which it does not supply.

Omitting the long narrow strip of mountainous country and sea-coast which forms the Tenasserim province below Maulmain, British Burma may, roughly speaking, be said to consist of three broad mountain ranges, having outside them on the west the sea-board province of Arracan, embracing between them the two great valleys of the Irrawaddy and the Sittoung, which forms, south of Rangoon, one vast plain, the centre range of the three mountain chains being shorter than are the other two.

Its physical geography is interesting and peculiar, and in its pluvial character most characteristic and remarkable. The wet season lasts from about May to October, and during these five months of almost constant rain the average rainfall amounts to 184 inches at Maulmain,—in one exceptional year to 228 inches. During this period the great Irrawaddy rises 40 feet above its summer level and floods the surrounding lowlands, whilst its main current travels with a velocity of five miles an hour. Many proposals have been made to found sanatoriums for Europeans on the high mountain ranges of Burma, but however pleasant in summer, they would, says Capt. Forbes, "have to be abandoned to the jungle beasts and the elements during the rains, for not even natives could remain to take care of the buildings; and so incredibly rapid and luxurious is vegetation there, that the very next year a forest would have to be cleared away to find the houses again." December, January, and February are the cold months, whilst the hot weather lasts from February till the rains commence again. The climate, however, is excellent; the registration returns show that the deaths of children under five years of age are in the proportion of 27·85 of the total death rate; the percentage of children under twelve years of age is 35·8 of the whole population.

The chapter on the physical geography of the region is evidently compiled from careful authorities. The author appears to have undertaken no original investigations, nor to have added any original information on the subject; the biological effects of these annual inundations, in such a region teeming with animal life, excite the profoundest interest, but await the chronicle of a qualified observer. The principal part of the volume is occupied with an account of the people of British Burma, which the sociologist may find a storehouse of useful facts, and which must prove of the greatest value as an introduction to the ethnology of the region to all such as are approaching that subject. The statistical tables of the Census Report for British Burma, 1872, "give eighteen divisions of the indigenous races of so-called Mongolian origin." According to Capt. Forbes four great races occupy the Burman peninsula—the Mōn, the Karen, the Burman, and the Tai, or Shan, of which the Mōns form the majority of the inhabitants of British Burma. As regards the author's endeavour to give "a probable account of the route and order by which they arrived in their present localities," we must refer the reader to his arguments, and, without expressing an opinion thereon, will merely remark that even in science, when the rigour of induction is at all relaxed, a sentence written by Mr. Leslie Stephen is very applicable—"one clever man's guess is as good as another, whatever the period at which he lived." The chapters devoted to "social life and manners," &c., are very valuable to the comparative ethnologist. Some of these facts have been related before, but collected thus in a compendious form, and enriched with the results of a long official experience, they form material to supply links in that chain of generalisations which during the last few years in the hands of Tylor and Lubbock have created a new branch of anthropology.

Among the hill tribes the Karens are now divided between "those who have permanently settled in the plains and betaken themselves to a regular system of agriculture